(Docket No. IN-5530/BC1-0047)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Bernhard Leitmann	
Serial No.: 10/018,336	Group Art Unit: 1711
Filed: October 30, 2001	Examiner: ASINOVSKY, O.
For: AQUEOUS COATING MATERIAL AND MODULAR SYSTEM FOR PRODUCING SAME	

APPLICANT'S REPLY BRIEF UNDER 37 C.F.R. §41.41(a)(1)

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The inventors of record in this application have assigned all right, title and interest in and to the invention(s) of this application to BASF COATINGS AKTIENGESELLSCHAFT. The recordation date of the assignment is 10/30/2001 and is recorded in Reel/Frame 012593/0562. Accordingly, BASF COATINGS AKTIENGESELLSCHAFT is the real party in interest.

RELATED APPEALS AND INTERFERENCES

To the best of the undersigned's knowledge and belief, there are no related appeals or interferences.

STATUS OF CLAIMS

Claims 3,18-19, 21-22, 25-26 and 28 are pending in the application. Claims 12, 13 and 29-32 were withdrawn. Claims 1, 2, 4-11, 14-17, 20, 23-24, 27, 33-41 have been canceled.

This appeal is taken from the final rejection of claims 1-11, 14-28, 33, 34, and 36 made in the Office Action mailed on November 18, 2004 and from the Examiner's Answer of August 23, 2004.

Claims 3, 18-19, 21-22, 25-26 and 28 are being appealed. All pending claims stand or fall together.

STATUS OF AMENDMENTS

Claims 12-13, and 29-32 were previously withdrawn as being subject to a nonelected invention. Claims 34, 35, 37-38, 40 and 41 were previously canceled.

Claims 1, 2, 4-11, 14-17, 20, 23-24, 27, 33, 36, and 39 were canceled in the Reply Brief dated October 14, 2005.

The Office Communication dated March 6, 2007stated that the cancellations were entered.

Accordingly, claims 1, 2, 4-11, 14-17, 20, 23-24, 27, 33, 36, and 39 stand as cancelled.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 3 provides a process for preparing an aqueous coating material with precisely defined shade and optical effect. The desired coating material is obtained by mixing certain specified modules together shortly before application of the prepared coating material. The modules to be mixed together differ in material composition and function and are stored separately from one another. *See Specification page 82, line 11 through page 89.*

The disclosed process of claim 3 requires mixing together a module (I), a module (II), and a varnish module (III), and optionally a rheology module (IV).

Module (I) contains less than 5% by weight water and provides at least one of color and effect. *See Specification, page 14, line 16 through page 15, line 7.* Module (I) comprises at least one base color (A1) that imparts at least one of color and effect. The base color (A1) contains less than 5% by weight water and imparts at least one of color and effect. *See Specification, page 14, lines 20-29 and page 15, lines 1-20.* Base color (A1) comprises at least one binder (a11), wherein the binder (a11) is optionally water-soluble or water-dispersible, at least one pigment (a12) that provides at least one of color and effect, and at least one organic solvent (a13), wherein the organic solvent is optionally water-miscible. *See Specification, page 15, line 28 through page 58, line 7, and page 70, line 10 through page 72, line 22.*

In addition, base color (A1) may also, optionally, comprise at least one of (a14) at least one crosslinking agent, (a15) at least one auxiliary, and (a16) at least one additive. *See Specification, page 58, line 9 through page 70, line 8.*

Module (II) is aqueous and imparts color. The at least one color-imparting aqueous module (II) comprises at least one aqueous color-imparting base color (A2). *See Specification, page 73, lines 10-11.*

The at least one color-imparting base color (A2) is aqueous. *See Specification, page 73, line 10 through page 76.* Aqueous base color (A2) comprises at least one water-soluble or -dispersible binder (a21), at least one color pigment (a22), and water (a23). *See Specification, page 75, line 8 through page 76, line 10.* In addition, aqueous base color (A2) may also, optionally,

comprise at least one of (a24) at least one organic solvent, wherein the organic solvent is optionally water-miscible, (a25) at least one crosslinking agent, (a26) at least one auxiliary, and (a27) at least one additive. *See Specification, page 73, line 10 through page 76.*

Module (III) is an aqueous, pigment-free component. It comprises at least one pigment-free aqueous mixing varnish (B). *See Specification, page 77, lines 1-3.*

The pigment-free varnish (B) is aqueous. *See Specification, page 77, line 1 through page 79.* Pigment-free varnish (B) comprises at least one water-soluble or -dispersible binder (b1) and water (b2). *See Specification, page 79, lines 6-14.* In addition, pigment-free varnish (B) may also, optionally, comprise at least one of: (b3) at least one crosslinking agent, (b4) at least one auxiliary, and (b5) at least one additive. *See Specification, page 77, line 1 through page 79.*

Finally, the process of claim 3 may also optionally contain a module (IV) that is pigment free. If module (IV) is present, it contains pigment-free aqueous medium (C) that comprises (c1) at least one rheology control additive. *See Specification, page 80, line 1 through page 82, line 9.*

Claim 18 provides the process of claim 3 wherein base color (A1) imparts one of effect or color and effect. *See page 15, lines 1-7.*

Claim 19 provides that the modular system of claim 3 may be one of three alternatives. The three stated alternatives of claim 19 relate to whether module (I) imparts one of color or effect, or both. *See page 15, lines 1-7.*

Claim 21 provides the process of claim 3 wherein additive (b5) comprises the at least one rheology control additive. *See Specification, page 80, line 1 through page 82, line 9.*

Claim 22 provides the process of claim 3 wherein the aqueous coating material further comprises the rheology module (IV). *See Specification, page 80, line 1 through page 82, line 9.*

Dependent claim 25 provides the process of claim 3 wherein binders (a11), (a21), and (b1) come from the same polymer class. *See Specification, page 73, lines 15-22, and page 77, lines 12-16.*

Dependent claim 26 provides the process of claim 25 wherein binders (a11), (a21), and (b1) are polyurethane resins. *See Specification, page 73, lines 15-22, and page 77, lines 12-16.*

Dependent claim 28 provides the process of claim 3 wherein binders (a21) and (b1), and optionally the binder (a11), comprise functional groups that can be converted into anions by at least one of neutralizing agents and anionic groups. *See Specification, page 17, line 26 through page 21, line 15 and page 77, line 11-16.*

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Claims 3, 18-19, 21-22, 25-26, and 28 stand rejected under 35 U.S.C. §103(a) as being obvious over Reusmann et al., U.S. 6,403,701, hereafter "Reusmann" or "'701".

II. Claims 3, 18-19, 21-22, 25-26, and 28 stand rejected under 35 U.S.C. §103(a) as being obvious over Reusmann et al., U.S. 6,403,701, hereafter "Reusmann" or "'701" in view of Kawakami et al., EP 081994, hereafter "Kawakami" or "'994".

ARGUMENT

A. CLAIMS 3, 18-19, 21-22, 25-26, AND 28 ARE NONOBVIOUS UNDER 35 U.S.C. §103(A) AS BEING OBVIOUS OVER REUSMANN ET AL., U.S. 6,403,701, HEREAFTER "REUSMANN" OR "'701".

The Examiner's Answer of August 23, 2005 is respectfully submitted to contain a new ground of rejection, i.e., the rejection of the pending claims over Reusmann individually.

However, the cited reference fails to provide a prima facie case of obviousness because it fails to disclose all of the limitations required in the process of Applicants' independent claim 3.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

Reusmann is relied upon for its description of a mixer system, which includes (A) many water-free base colors and (B) a pigment-free aqueous component. *See '701, Abstract.* Component (A) contains less than 5% by wt of water, one coloring and/or special effect pigment, an organic solvent, a water thinnable or water-dispersible first binder and if desired auxiliaries and additives. *See '701, column 3, line 3 to column 5, line 47.* Component (B) comprises aqueous dispersion of polyurethane resin. *See '701, column 5, line 48 to column 11, line 62.*

It is the PTO's position that components A and B of Reusmann read respectively on base color (A1) and mixing varnish (B) of Applicant's modules (I) and (III) of the process of claim 3.

The PTO has admitted that the '701 patent does not disclose or suggest a composition comprising the combination of Applicant's components (A1) and (B)

with a component (A2) that requires binder, pigment and water. *(See Examiner's Answer, page 8, last paragraph and page 9, line 1.)*

Thus, Reusmann necessarily fails to disclose a process wherein three separate and distinct modules are mixed together to provide an aqueous coating, especially a process requiring the mixture of modules (I), (II), and (III) together wherein module (II) comprises an aqueous color imparting base color (A2).

Rather, as noted and admitted by the PTO, Reusmann alone teaches a process wherein an aqueous coating is provided by a process of mixing together only two particular modules or components.

Accordingly, it is respectfully submitted that Reusmann alone fails to provide a prima facie case of obviousness with regards to independent claim 3 and all claims dependent thereon.

Reconsideration and removal of the rejection is respectfully requested.

B. CLAIMS 3, 18-19, 21-22, 25-26, AND 28 ARE NONOBVIOUS UNDER 35 U.S.C. §103(A) OVER REUSMANN ET AL., U.S. 6,403,701," IN VIEW OF KAWAKAMI ET AL., EP 081994.

B1. Claims 3, 18-19, 21-22, 25-26, AND 28 are nonobvious under 35 U.S.C. §103(a) over Reusmann et al., U.S. 6,403,701, in view of Kawakami et al., EP 081994 because the cited combination fails to provide a prima facie case of obviousness.

The PTO has maintained the rejection of independent claim 3 and all claims dependent thereon. It is the PTO's position that it would have been obvious to include the paper coating composition of the '994 application in the system of the '701 patent. Motivation for such a combination is said to be disclosed in the last paragraph of the Abstract of the '994 application, i.e., '...to make a coated paper which has good water resistance (due to the resin (Y)) whilst being receptive to rotary offset printing ink.' *See Office Action of November 5, 2003.*

Applicant greatly appreciates the detailed basis of rejection but must respectfully disagree.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

This standard is not met with the instant combination of references.

Reusmann is relied upon for its description of a mixer system, which includes (A) many water-free base colors and (B) a pigment-free aqueous component. *See '701, Abstract.* Component (A) contains less than 5% by wt of water, one coloring and/or special effect pigment, an organic solvent, a water thinnable or water-dispersible first binder and if desired auxiliaries and additives. *See '701, column 3, line 3 to column 5, line 47.* Component (B) comprises

aqueous dispersion of polyurethane resin. *See '701, column 5, line 48 to column 11, line 62.*

It is the PTO's position that components A and B of Reusmann read respectively on base color (A1) and mixing varnish (B) of Applicant's instant claims 1, 2, and 3.

The PTO recognizes that the '701 patent does not disclose or suggest a composition comprising the combination of Applicant's components (A1) and (B) with a component (A2) that requires binder, pigment and water.

The PTO relies upon Kawakami to rectify this deficiency of the '701 patent. Per it's Abstraci, the '994 application describes paper coating compositions that require a particular thermosetting resin, conventional pigment, binder and water.

As noted previously, it is the PTO's position that it would have been obvious to include the paper coating composition of the '994 application in the system of the '701 patent. Motivation for such a combination is said to be disclosed in the last paragraph of the Abstract of the '994 application, i.e., '...to make a coated paper which has good water resistance (due to the resin (Y)) whilst being receptive to rotary offset printing ink.'

Applicant greatly appreciates the detailed basis of rejection but must respectfully disagree.

Applicant's process of independent claim 3 requires the combination of an organic solvent based base color (A1), an aqueous base color (A2), and an aqueous pigment-free mixing varnish (B).

However, the cited combination fails to provide any suggestion or motivation to do what Applicant has done and obtain the claimed process requiring three separate and distinct modules.

B1a. Claim 3 is nonobvious over Reusmann et al., U.S. 6,403,701," in view of Kawakami et al., EP 081994 because the cited combination fails to provide any motivation to do what Applicant has done.

Applicant must respectfully disagree with the PTO's contention that the cited combination provides requisite motivation and submits that the cited combination fails to provide any suggestion to do what Applicant has done.

In particular, there is no motivation in the '994 application to combine its complete and 'stand alone' paper coatings of Examples 3-16 with the components of the '701 patent.

Rather, the teachings of the '994 application indicate that the disclosed paper coatings containing filler pigments are complete and do not require admixture with any other components.

This is evidenced by the fact that the '994 application teaches that the total solids concentrations of the disclosed paper coating compositions should be from 30 to 80 weight %, preferably from 50 to 60 weight % and that such complete paper coating compositions provide adequate water resistance to paper substrates. *See page 9, lines 3-7 and pages 10-35, especially Examples 3-16.* It is noted that Part (1) of Examples 13-16 indicates that the prepared test coatings are complete paper coatings since they were adjusted to provide a final solids concentration of 55 wt%.

In fact, Applicant respectfully submits that the portion of the '994 Abstract relied upon by the PTO actually teaches away from Applicant's claimed invention and thus cannot provide motivation to do what Applicant has done.

A reference that leads one of ordinary skill in the art away from the claimed invention cannot render it unpatentably obvious. *Dow Chem. Co. v. American Cyanamid Co.* 2 U.S.P.Q.2d 1350 (Fed. Cir. 1987).

For example, the Federal Circuit has clearly stated that "each prior art reference must be evaluated as an entirety, and …all of the prior art must be evaluated as a whole". *In re Fritch*, 23 U.S.P.Q.2d 1780, 1782 (Fed. Cir. 1992). And particularly on point, the CCPA had earlier said "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated

into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 108 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

One of skill in the art reading the entire '994 application, but especially Examples 3-16, would find that the disclosed paper coatings were not suitable for admixture with any other coating components. That is, the disclosed coatings are taught to provide acceptable water resistance simply by their sole application to a paper substrate. *See '994, last paragraph of Abstract.* This interpretation of the '994 application is supported by the working examples of the '994 application which clearly establish that desirable water resistance of paper substrates is obtained solely with the use of the disclosed paper coating compositions.

Moreover, it is respectfully submitted that the '994 application's teachings with respect to improved water resistance are confined to the advantages resulting from the use of the particularly disclosed thermosetting resin. This thermosetting resin results from the reaction of (a), (b), and a resin (Y) obtained by reacting (i), (ii), and (iii).

Nothing in the '994 application provides a reason to combine a solvent borne base color (A1) with a pigment free mixing varnish (B) and an aqueous color-imparting base color (A2). The PTO is encouraged to provide a citation to any such suggestion.

Instead, it is submitted that the motivation suggested by the PTO is apparent only with the benefit of the hindsight teachings of Applicant's Specification. A statement that modifications of the prior art to meet the claimed inventions would have "*well within the ordinary skill of the art* at the time the claimed invention was made" because the references teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); MPEP 2143.01.

Nothing in the '994 application suggests that the disclosed paper coating compositions should be combined with the solvent based composition (A2) and aqueous pigment free varnish (B)of the '701 reference. Rather, the teachings of the '994 application indicate that the disclosed compositions are intended to be wholly complete coatings in and of themselves. Nothing except Applicant's teachings suggest that they should be combined with components such as Applicant's (A1) and (B). The mere fact that references can be combined does not render the resultant combination obvious unless the *prior art* suggests the desirability of the combination. *In re Fritch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992), emphasis added.

Accordingly, the cited combination fails to provide a prima facie case of obviousness as to the process of independent claim 3. In particular, the cited combination fails to provide any motivation to do what Applicant has done in the invention of independent claim 3.

Reconsideration and removal of the rejection is thus respectfully requested with respect to Applicant's independent claim 3 in view of the failure of the cited combination to disclose the motivation necessary for a prima facie case of obviousness under 35 U.S.C. §103(a).

B2. Claims 18-19, 21-22, 25-26, and 28 are nonobvious under 35 U.S.C. §103(a) over Reusmann et al., U.S. 6,403,701," in view of Kawakami et al., EP 081994 because they incorporate the limitations of at least one independent claim.

Reconsideration and removal of the rejection as to dependent claims 18-19, 21-22, 25-26, and 28 is also requested, in as much as each one of these dependent claims incorporate the limitations of independent claims 3. Claim 3 is believed to nonobvious in view of the foregoing arguments set forth in Section B1 above, hereby incorporated by reference.

FOR THESE REASONS, Applicant respectfully petitions this Honorable Board to reverse the rejection set forth by the Examiner.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Canceled)

2. (Canceled)

3. (Previously Presented) A process for preparing an aqueous coating material with precisely defined shade and optical effect comprising mixing modules differing in material composition and function and stored separately from one another, shortly before application of the coating material, wherein the modules comprise

(I) at least one module containing less than 5% by weight water that provides at least one of color and effect comprising

(A1) at least one base color containing less than 5% by weight water that imparts at least one of color and effect comprising

(a11) at least one binder, wherein the binder is optionally water-soluble or water-dispersible,

(a12) at least one pigment that imparts at least one of color and effect, and

(a13) at least one organic solvent, wherein the organic solvent is optionally water- miscible,

and optionally, at least one of

(a14) at least one crosslinking agent,

(a15) at least one auxiliary, and

(a16) at least one additive;

(II) at least one aqueous color module comprising

(A2) at least one aqueous color-imparting base color comprising

(a21) at least one water-soluble or -dispersible binder,

(a22) at least one color pigment, and

(a23) water,

and optionally, at least one of

(a24) at least one organic solvent, wherein the organic solvent is optionally water- miscible,

(a25) at least one crosslinking agent,

(a26) at least one auxiliary, and

(a27) at least one additive;

and

(III) at least one pigment-free mixing varnish module comprising

(B) at least one aqueous, pigment-free mixing varnish comprising

(b1) at least one water-soluble or -dispersible binder, and

(b2) water,

and optionally, at least one of

(b3) at least one crosslinking agent,

(b4) at least one auxiliary, and

(b5) at least one additive;

and optionally

(IV) at least one pigment-free rheology module comprising

(C) an aqueous medium comprising

(c1) at least one rheology control additive;

optionally, with the proviso that at least one of the additives (a16), (a27), and (b5) further comprise at least one rheology control additive (c1).

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Withdrawn) A method comprising applying the aqueous coating material of claim 1 to a substrate to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

13. (Withdrawn) A method comprising applying the aqueous coating material of claim 1 to a substrate as a basecoat, and applying to the basecoat the aqueous coating material of claim 1 as a solid-color topcoat to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Previously Presented) The process of claim 3, wherein the base color (A1) imparts one of i) effect or ii) color and effect.

19. (Previously Presented) The process of claim 3, wherein the mixing modules comprise one of

1. at least one color module (I) containing less than 5% by weight water, at least one aqueous color module (II), and at least one aqueous, pigment-free mixing varnish module (III),
2. at least one color and effect module (I) containing less than 5% by weight water, at least one aqueous color module (II), and at least one aqueous, pigment-free mixing varnish module (III), and
3. at least one effect module (I) containing less than 5% by weight water, at least one color module (I) containing less than 5% by weight water, at least one aqueous color module (II), and at least one aqueous, pigment-free mixing varnish module (III).

20. (Canceled)

21. (Previously Presented) The process of claim 3, wherein the additive (b5) comprises at least one rheology control additive.

22. (Previously Presented) The process of claim 3, wherein the aqueous coating material further comprises the at least one pigment-free rheology module (IV).

23. (Canceled)

24. (Canceled)

25. (Previously Presented) The process of claim 3, wherein the binders (a11), (a21), and (b1) come from the same polymer class.

26. (Previously Presented) The process of claim 25, wherein the binders (a11), (a2l), and (b1) are polyurethane resins.

27. (Canceled)

28. (Previously Presented) The process of claim 3, wherein the binders (a21) and (b1), and optionally the binder (a11), comprise functional groups that can be converted into anions by at least one of neutralizing agents and anionic groups.

29. (Withdrawn) A method comprising applying the modular system of claim 2 to a substrate to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

30. (Withdrawn) The process of claim 3 further comprising applying the aqueous coating material to a substrate to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

31. (Withdrawn) A method comprising applying the modular system of claim 2 to a substrate as a basecoat, and applying to the basecoat the modular system of claim 2 as a solid-color topcoat to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

32. (Withdrawn) The process of claim 3 further comprising applying the aqueous coating material to a substrate as a basecoat, and applying to the basecoat the aqueous coating material as a solid-color topcoat to provide one of an automotive OEM finish, an automotive refinish, and a plastic coating.

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE